

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date:

Region: Raleigh Regional Office
County: Lee
NC Facility ID: 5300139
Inspector's Name: Steven Carr
Date of Last Inspection: 11/18/2015
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): Coty US LLC Facility Address: Coty US LLC 1400 Broadway Road Sanford, NC 27332 SIC: 2844 / Toilet Preparations NAICS: 32562 / Toilet Preparation Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				Permit Applicability (this application only) SIP: 02D .0958, 02D .1806, 02Q .0711 NSPS: NSPS IIII, NSPS Dc NESHAP: GACT ZZZZ PSD: N/A PSD Avoidance: Yes for VOC NC Toxics: Yes for ethyl acetate 112(r): No Other: TV Permit renewal			
Contact Data				Application Data			
Facility Contact David Vann Manager Regulatory Affairs (919) 895-5184 1400 Broadway Road Sanford, NC 27332	Authorized Contact Enric Prat General Manager (919) 895-5184 1400 Broadway Road Sanford, NC 27332	Technical Contact David Vann Manager Regulatory Affairs (919) 895-5184 1400 Broadway Road Sanford, NC 27332	Application Number: 5300139.14A, 5300139.16A Date Received: 04/4/2016, 01/25/2016 Application Type: 502(c)(2) - "Part 2", Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 09910/T03 Existing Permit Issue Date: 07/31/2013 Existing Permit Expiration Date: 10/31/2016				
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	0.0200	3.81	30.67	3.08	0.2300	0.0682	0.0651 [Hexane, n-]
2013	---	1.70	35.08	1.41	0.1000	0.0311	0.0297 [Hexane, n-]
2012	---	1.67	71.87	1.37	0.0900	0.0303	0.0289 [Hexane, n-]
2011	0.0200	1.55	164.49	1.23	0.0900	0.0302	0.0293 [Hexane, n-]
2010	0.0300	1.75	34.20	1.31	0.1300	0.0279	0.0270 [Hexane, n-]
Review Engineer: Betty Gatano Review Engineer's Signature: Date:				Comments / Recommendations: Issue 09910/T04 Permit Issue Date: Permit Expiration Date:			

1. Purpose of Application

Coty US, LLC (Coty) currently holds Title V Permit No. 09910T03 with an expiration date of October 31, 2016 for a fragrance manufacturing facility in Sanford, Lee County, North Carolina. A permit application for a minor modification under 15A NCAC 2Q .0515 was received on May 3, 2016. Under the permit application, Coty is requesting to add seven (7) new nail lacquer filling lines to its Sanford facility.

The facility also requested the following permit changes in Air Permit Application No. 5300139.16A:

- Add natural gas-fired boiler (11.54 million Btu/hr maximum heat input) (ID No. I-B.3).
- Remove natural gas-fired boiler (16.74 million Btu/hr maximum heat input) (ID No. B-3).
- Remove natural gas-fired boiler (5.2 million Btu/hr maximum heat input) (ID No I-B.1).

Air Permit Application No. 5300139.14A was received on September 15, 2014. The permit application served as the “Part 2” application of the two-step significant modification pursuant to 15A NCAC 02Q .0502(c)(2) and was submitted on or before 12 months after commencing operation of emission source (ID No. ES-2). The permit application also requested a permit modification to reclassify the facility from Title V to Synthetic Minor. Coty US LLC submitted a permit fee of \$400 as required to modify the facility’s fee classification. The request to reclassify the facility was subsequently withdrawn on October 22, 2015. Because Coty US LLC remains a Title V facility, the “Part 2” permit application is now being processed with the permit renewal application.

2. Facility Description

Coty US LLC in Sanford, NC is a manufacturer of fragrance products. The fragrance manufacturing process (ID No. ES-1) primarily produces liquid-type fragrance products, but equipment is also on site to manufacture cream-based products, depending on demand. The facility operates eight nail polish filling lines (ID No. ES-2) as well. Coty facility also has numerous insignificant activities including a natural-gas fired boiler (ID No. I-B.3) and two diesel-fired fire water pumps (ID Nos. I-FWP.1 and I-FWP.2).

3. History/Background/Application Chronology

Permit History since Initial TV Permit

November 16, 2011	Initial TV permit issued. Air Permit No. 09910T02 was issued on November 16, 2011 with an expiration date of October 31, 2016.
July 31, 2013	Air Permit No. 09910T03 was issued. This permit application was a “Part 1” application under 15A NCAC 02Q .0502(c)(2) to add an eighth nail lacquer (polish) bottle-filling line to the existing seven lines (ID No. ES-2).
September 25, 2014	Received “Part 2” application of the two-step significant permit modification pursuant to 15A NCAC 02Q .0502(c)(2). The permit application was submitted on or before 12 months after commencing

operation of emission source (ID No. ES-2). The permit application also requested a permit modification to reclassify the facility from Title V to Synthetic Minor. The request to reclassify the facility was subsequently withdrawn on October 22, 2015.

Application Chronology

January 25, 2016	Received application for permit renewal.
January 29, 2016	Sent acknowledgment letter indicating that the application for permit renewal was complete.
February 26, 2016	The Raleigh Regional Office (RRO) submitted comments on the permit renewal application.
March 3, 2016	Betty Gatano discussed the “Part 2” permit application (Air Permit Application No. 5300139.14A) with Linda Lamb, consultant for Coty. The DAQ re-opened this permit application.
March 7, 2016	Sent acknowledgement letter indicating the “Part 2” permit application was incomplete and a \$904 permit fee was required.
April 4, 2016	A check in the amount of \$904 was received, making in the “Part 2” permit application complete.
April 5, 2016	Draft permit and permit review forwarded for comments.
April 6, 2016	Charles McEachern of the Raleigh Regional Office (RRO) indicated he had no comments on the drafts.
April 6, 2016	Comments received from Mark Cuilla, Permitting Supervisor.
June 6, 2016	Comments received from Linda Lamb.
June 8, 2016	Draft permit and permit review sent to public notice.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the changes to the current permit as part of the renewal/modification process.

Pages	Section	Description of Changes
Cover and throughout	--	Updated all dates and permit revision numbers.
--	Insignificant Activities List	<ul style="list-style-type: none">Removed natural gas-fired boiler (5.2 million Btu per hour maximum heat input) (ID No. I-B.1).Added natural gas-fired boiler (11.54 million Btu per hour maximum heat input) (ID No. I-B.3).
3	1.0 – Equipment List	<ul style="list-style-type: none">Removed natural gas-fired boiler (16.74 million Btu per hour maximum heat input capacity) (ID No. B-3).Removed asterisk and footnote indicating the emission source (ID No. ES-2) is listed as a 15A NCAC 02Q .0501(c)(2) modification.
3	2.1.A – Regulations Table	Added reference to 15A NCAC 02Q .0317 for PSD avoidance.
3 - 4	2.1.B (old numbering)	<ul style="list-style-type: none">Removed regulations applicable to natural gas-fired boiler (ID No. B-3).Renumbered the remainder of the permit accordingly.
7 – 16	Section 3	Updated the General Conditions to the most recent revision (4.0 12/27/2015).
17	Attachment	Updated the list of acronyms.

The following changes were made to the Title V Equipment Editor (TVEE):

- added natural gas-fired boiler (11.54 million Btu/hr maximum heat input) (ID No. I-B.3)
- deleted natural gas-fired boiler (16.74 million Btu/hr maximum heat input) (ID No. B-3)
- deleted natural gas-fired boiler (5.2 million Btu/hr maximum heat input) (ID No I-B.1).

5. “Part 2” Application for Emission Source (ID No. ES-2)

Air Permit No. 09910T03 was issued to Coty on July 31, 2013 to add an eighth nail lacquer (polish) bottle-filling line to the existing seven lines (ID No. ES-2). This emission source was listed as a 15A NCAC 02Q .0501(c)(2) modification, and the facility was required to submit a Title V Air Quality Permit Application on or before 12 months after commencing operation. The eight nail lacquer bottle filling line commenced operation on September 15, 2013. This permit requirement was fulfilled with the receipt of Air Permit Application No. 5300139.14A on September 15, 2014.

Potential emissions from the eight nail lacquer bottle filling line are based on a material balance and are calculated as follows:

Measure	Value	Source
VOC emission factor	0.12 lb VOC/gal	Valued used in DAQ emission inventories for Coty.
Throughput	14.65 gal/hr	Maximum capacity provided in permit application.
Hours of operation	8760 hr/yr	--
VOC emissions from 8 th line	$E = 0.12 \text{ lb VOC/gal} * 14.65 \text{ gal/hr} * 8,760 \text{ hr/yr}$ $E = 15,400 \text{ lb/yr} = 7.7 \text{ tons/yr}$	
% of Ethyl acetate	Ranges from 0.03% to 54.4% of VOC by weight depending on product. 0.54 lb ethyl acetate / lb VOC	Historical values from Coty Conservative estimate
Ethyl Acetate emissions from 8 th line	$E = 0.54 \text{ lb ethyl acetate/lb VOC} * 15,400 \text{ lb VOC/yr}$ $E = 8,316 \text{ lb ethyl acetate/yr} = 0.95 \text{ lb/hr}$	

Coty is a minor source under Prevention of Significant Deterioration (PSD) rules. Because the increased emissions of VOCs from the new emission source are below the threshold level of PSD, this modification is considered a minor modification under PSD.

Potential emissions of ethyl acetate, which is Toxic Air Pollutant (TAP), increased with the addition of the 8th nail line. As required under 15A NCAC 02Q .0706, a facility-wide evaluation is required for any TAP having emission increases after modification. A facility-wide evaluation was conducted for ethyl acetate to ensure that no unacceptable risk to human health results from this modification. The highest annual actual emissions of ethyl acetate over the past five years as reported in the DAQ emission inventory were added to the potential emissions from the 8th nail line. As shown in the table, ethyl acetate emissions remain below its Toxics Permitting Emission Rate (TPER) after modification, and no further analysis is necessary.

TAP	Actual Facility-Wide Emissions		Potential Emissions from 8 th Nail Line	Total Emissions	TPER
	lb/yr	lb/hr	lb/hr	lb/hr	lb/hr
Ethyl Acetate	25,563	3.43	0.95	4.38	36
Notes: <ul style="list-style-type: none"> Highest actual emissions occurred in calendar year 2014, as reported in the DAQ emission inventory. Hourly emissions calculated assuming 7,488 hours of operation as a conservative estimate. These hours were provided by the consultant as a typical operating hours for the nail bottling lines. 					

The regulations applicable to the bottle filling operation using nail lacquer, consisting of eight bottle filling lines (ID No. ES-2) are discussed in Sections 7 and 8.

6. Insignificant Activities

In 2014, Coty installed a new natural gas-fired boiler (ID No. I-EB.3), rated at 11.54 million Btu/hr. The boiler is considered an insignificant under 15A NCAC 02Q .0503(8) based on emissions, as shown in the table below.

Pollutant	TV Potential Emissions (tons/yr)
PM (TSP)	0.38
PM10	0.28
PM2.5	0.09
CO	4.16
NO _x	4.96
SO ₂	0.03
VOC	0.27
Total HAPs	0.093
Largest HAP (n-hexane)	0.089
<u>Notes</u> <ul style="list-style-type: none">Emissions from the boiler (11.54 million Btu/hr) were determined from DAQ's spreadsheet entitled, "Natural Gas Combustion Calculator Revision K" (06/19/2012), operating at 8,760 hours per year.	

With the addition of the new natural gas-fired boiler (11.54 million Btu/hr maximum heat input: ID No. I-B.3) and the removal of natural gas-fired boiler (16.74 million Btu/hr maximum heat input: ID No. B-3) and natural gas-fired boiler (5.2 million Btu/hr maximum heat input: ID No I-B.1) from the facility, overall emissions of TAPs from combustion sources should be less after this modification. Regardless, a facility-wide evaluation was conducted for TAPs associated with the new boiler to ensure that no unacceptable risk to human health results from this modification. The highest annual actual emissions of TAPs over the past five years as reported in the DAQ emission inventory were added to the potential emissions from the new natural gas-fired boiler. As shown in the table below, emissions of TAPs remain below the pollutants' TPERs after modification, and no further analysis is necessary.

TAPs	Actual Emissions from the facility			Potential Emissions from Boiler (ID No. I-B.3)			Total Emissions			TPERs		
	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr
Acetaldehyde	3.4E-05	8.0E-04	7.0E-02	1.7E-07	4.1E-06	1.5E-03	3.4E-05	8.1E-04	7.2E-02	6.8		
Acrolein	4.5E-06	1.1E-04	9.5E-03	2.0E-07	4.9E-06	1.8E-03	4.7E-06	1.1E-04	1.1E-02	0.96		
Ammonia	1.1E-01	2.6E+00	2.3E+02	3.6E-02	8.7E-01	3.2E+02	1.5E-01	3.5E+00	5.5E+02	0.68		
Benzene	1.1E-04	2.7E-03	2.4E-01	2.4E-05	5.7E-04	2.1E-01	1.4E-04	3.3E-03	4.5E-01			8.1
Benzo(a)pyrene	3.3E-08	8.0E-07	7.0E-05	1.4E-08	3.3E-07	1.2E-04	4.7E-08	1.1E-06	1.9E-04			2.2
Formaldehyde	2.6E-03	6.3E-02	5.5E+00	8.5E-04	2.0E-02	7.4E+00	3.5E-03	8.4E-02	1.3E+01	0.04		
n-Hexane	6.2E-02	1.5E+00	1.3E+02	2.0E-02	4.9E-01	1.8E+02	8.2E-02	2.0E+00	3.1E+02		23	
Toluene	1.3E-04	3.2E-03	2.8E-01	3.9E-05	9.2E-04	3.4E-01	1.7E-04	4.1E-03	6.2E-01	14.4	98	
<u>Notes</u> <ul style="list-style-type: none"> Highest actual emissions occurred in calendar year 2014, as reported in the DAQ emission inventory. Potential emissions from the new boiler were determined from DAQ's spreadsheet entitled, "Natural Gas Combustion Calculator Revision K" (06/19/2012). 												

7. Regulatory Review

Coty is subject to the following regulations. The permit will be updated to reflect the most current stipulations for all applicable regulations.

- 15A NCAC 02D .0958, Work Practices for Sources of Volatile Organic Compounds (VOC) – The facility is subject to 02D .0958. This regulation is applicable facility-wide.
- 15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions – This regulation is applicable facility-wide and is state-enforceable only.
- 15A NCAC 02Q .0317, Avoidance Conditions – The facility has accepted an avoidance condition for 15A NCAC 02D .0530, PSD. More discussion on PSD is provided in Section 8.
- 15A NCAC 02Q .0711, Emission Rates Requiring a Permit – The facility is subject for ethyl acetate. See Section 9 for further discussion regarding air toxics.

8. NSPS, NESHAPS/MACT, NSR/PSD, 112(r), CAM

NSPS

Coty is subject to the New Source Performance Standards (NSPS) as discussed below.

NSPS Subpart Dc

The new natural gas-fired boiler (ID No. I-ES.3) is subject to the “NSPS for Small Industrial, Commercial, Institutional Steam Generating Units,” 40 CFR Part 60 Subpart Dc. This subpart applies to boilers constructed, modified, or reconstructed after June 9, 1989 and have a maximum design heat input capacity > 10 million Btu per hour and < 100 million Btu per hour. Other than notification requirements, the only requirements for natural gas-fired boilers under the NSPS Subpart Dc is to keep records of monthly fuel usage as specified in 40 CFR 60.48c(g).

NSPS Subpart IIII

The diesel-fired fire water pump (ID No. I-FWP.1) is subject to “NSPS for Stationary Compression Ignition Internal Combustion Engines,” 40 CFR 60, Subpart IIII. This regulation applies to owners and operators that commence construction of their compression ignition internal combustion engines after July 11, 2005, where the engines were manufactured after July 1, 2006, per 40 CFR 60.4200(a)(2)(ii). To comply with the emission standards for this emergency generator, Coty must purchase an emergency generator, certified to meet the emission standards for the same model year and maximum engine power in 40 CFR 89.112. Coty must also use only compliant diesel fuel, install a non-resettable hour meter on the generator, and conduct monitoring, recordkeeping, and reporting as required by the NSPS. Continued compliance with this rule is anticipated.

NESHAPS/MACT

The facility is an area source of hazardous air pollutants (HAPS). The General Available Control Technology (GACT) regulations for area sources apply to Coty as discussed below.

GACT Subpart ZZZZ

The two diesel-fired fire water pumps (ID Nos. I-FWP.1 and I-FWP.2) are subject to the GACT requirements under the “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,” 40 CFR Part 63 Subpart ZZZZ.

The diesel-fired fire water pump (ID No. I-FWP.1) is considered a new emission source under the GACT. Per 40 CFR 63.6590(c)(1), a new stationary RICE located at an area source of HAPs that is also subject to NSPS Subpart IIII must meet the requirements of GACT Subpart ZZZZ part by meeting the requirements of NSPS Subpart IIII, for compression ignition engines. No further requirements apply for the diesel-fired fire water pump (ID No. I-FWP.1) under GACT Subpart ZZZZ.

The diesel-fired fire water pump (ID No. I-FWP.2) is not subject to NSPS Subpart IIII and is considered an existing source under GACT Subpart ZZZZ. The following provides an overview of the requirements under GACT Subpart ZZZZ for this engine:

- Install a non-resettable hour meter on the engine and record hours of operation.
- Change oil and filter every 500 hours of operation or annually, whichever comes first.
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace if necessary.
- Operate a maximum of 100 hours for maintenance and readiness testing.
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.
- Conduct other required recordkeeping and reporting.

GACT Subpart JJJJJ

Boilers at area sources of HAPs may be subject to the “NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers,” (GACT Subpart 6J) depending on the fuels fired in the boiler. Per 40 CFR 63.11195(e), gas-fired boilers as defined under 40 CFR 63.11237 are not subject to GACT Subpart 6J. Therefore, the new natural-gas fired boiler (ID No. I-B.3) is not subject to GACT Subpart 6J.

PSD

Lee County is designated as attainment for ozone. Coty has taken a limit of 250 tons of VOC per consecutive 12-month period to avoid applicability of PSD. No changes to the monitoring, recordkeeping, and reporting requirements are required under this permit renewal/modification. Continued compliance is anticipated.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r). This permit renewal/modification does not affect the 112(r) status of the facility.

CAM

Coty has no add-on control devices. Therefore, CAM is not applicable to this facility.

9. Facility Wide Air Toxics

The addition of the nail lacquer (polish) bottle-filling process (ID No. ES-2) in 2011 resulted in emissions of the TAP ethyl acetate. Consequently, the 02Q .0711 limit for ethyl acetate of 36 lb/hour

was added to the permit under Air Permit No. 09910R01 issued on March 11, 2011. Based on the calculations provided in the associated application, the actual expected emissions from bottle filling process were 6.65 lb/hr¹ and were well below the TPER for ethyl acetate.

As noted in Section 5 above, emissions of ethyl acetate remain below the TPER with the addition of an eight bottling line to emission source (ID No. ES-2). No change to the permit is needed under this permit renewal/modification. Continued compliance is anticipated.

10. Facility Emissions Review

Potential emissions after the renewal/modification are provided in the table below. Actual emissions from Coty are reported in the header of this permit review.

Pollutant	TV Potential Emissions (tons/yr)
PM (TSP)	5.69
PM10	5.58
PM2.5	5.38
CO	23.64
NO _x	79.44
SO ₂	0.27
VOC	200.36
<u>Notes</u> <ul style="list-style-type: none"> • Potential emissions were reported in Air Permit Application No. 5300139.14A and were adjusted for removal of natural gas boilers (ID Nos. B-3. And I-B.1), removal of a natural gas-fired boiler (6.7 million Btu/hr) that was never installed, and addition of natural gas-fired boiler (ID No. I-B.3). • Emissions from the natural gas-fired boiler (11.54 million Btu/hr, ID No. I-B.3) were determined from DAQ's spreadsheet entitled, "Natural Gas Combustion Calculator Revision K" (06/19/2012), operating at 8,760 hours per year. • No facility-wide HAP emissions were provided in Air Permit Application No. 5300139.14A. 	

11. Compliance Status

During the most recent inspection, conducted on November 18, 2015 by Steve Carr of the RRO, the facility appeared to be in compliance with all applicable requirements. Additionally, a signed Title V Compliance Certification (Form E5) indicating that the facility was in compliance with all applicable requirements was included with the permit renewal.

12. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall

¹ Brian Bland (03/11/2011).

be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. No affected States or areas are within 50 miles of this facility.

13. Other Regulatory Considerations

- A P.E. seal is NOT required for these applications.
- A zoning consistency determination is NOT required for these applications.
- A permit fee is required for the “Part 2” application of the two-step significant modification pursuant to 15A NCAC 02Q .0502(c)(2). A permit fee of \$904 was received on April 4, 2016.

14. Recommendations

The permit renewal/modification applications for Coty US LLC in Sanford, Lee County, NC have been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 09910T04.